



NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory

Friday, April 13, 2001

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Lab celebrates certification of W87

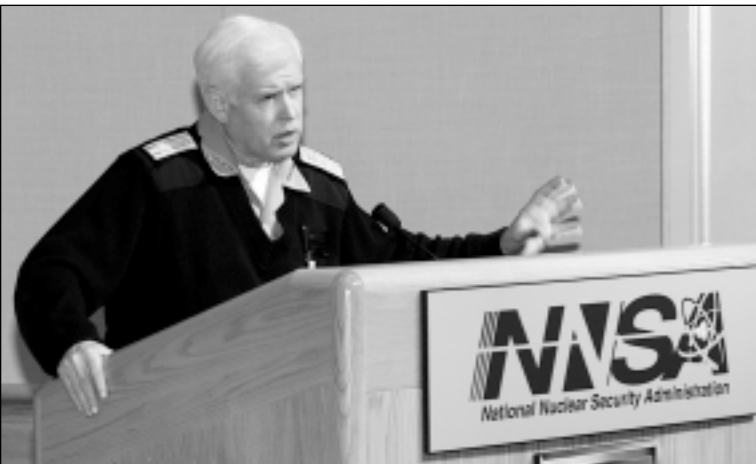
By Don Johnston
NEWSLINE STAFF WRITER

Certification of the first warhead to be refurbished without nuclear testing for the nation's nuclear deterrent was celebrated at the Laboratory Tuesday.

In a ceremony attended by Gen. John Gordon, administrator of the National Nuclear Security Administration, and Adm. Richard Mies, commander-in-chief of the United States Strategic Command, the Laboratory team of scientists and engineers who worked on the W87 Life Extension Project was recognized.

Speaking as the "customer" for the work on the W87 warhead, deployed as the "Peacekeeper" intercontinental ballistic missile (ICBM) system, Mies called it an "historic event" and "the first real test of stockpile stewardship" — the DOE/NNSA science-based program to ensure the safety and reliability of weapons in the stockpile without nuclear testing.

"You've overcome significant hurdles to reach



Adm. Richard Mies (above) and NNSA Administrator Gen. John Gordon lauded work on the W87.

this occasion," he said. "This significantly improves the performance of this ICBM. It extends the life of the warhead well into this 21st

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JOSEPH MARTINEZ/TID



Employee survey enters the final stages of review; distribution expected in May

In his Director's column in the Jan. 12 issue of *Newsline*, Director Bruce Tarter announced several workforce challenges on which he would focus in 2001. An important element is a comprehensive employee survey to help define the Lab's path forward to meet these challenges.

International Survey Research (ISR) and the steering committee formed to oversee the survey have developed a draft of the survey questionnaire. Today the survey will be reviewed by members of the focus groups who were interviewed in February to identify key issues to be addressed in the survey. They will review the survey and identify if any major issues have been overlooked before the survey is finalized.

The survey is then expected to undergo a "pretest" the week of April 18, when other members of the focus groups will be asked to take the survey. Additional fine-tuning of the survey will be done following these reviews, after which ISR will do the final preparations of the survey and the processes for conducting the survey.

"We want to accomplish a number of objectives with the extensive reviews of the survey," said Deputy Director Jeff Wadsworth, head of the steering committee. "We want to make sure as many interests as pos-

See SURVEY, page 8

EUVL partnership makes its stand

By Gordon Yano
PUBLIC AFFAIRS OFFICE

Members of industry, government and the news media gathered at Sandia National Laboratories/Livermore this week to mark completion of the first full-scale prototype lithography machine for making computer chips using extreme ultra-violet (EUV) light.

The technology — developed by Lawrence Livermore, Sandia and Lawrence Berkeley national labora-

tories — is a breakthrough that will lead to microprocessors tens of times faster than today's most powerful chips and create memory chips with similar increases in storage capacity.

Wednesday morning's EUV Lithography Milestone Celebration featured remarks from Gen. John Gordon, administrator of the National Nuclear Security Administration; Craig Barrett, CEO of Intel; Congresswoman Ellen

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JOSEPH MARTINEZ/TID

Intel CEO Craig Barrett speaks to reporters at Wednesday's EUV Lithography Milestone Celebration at Sandia National Laboratories/Livermore.

Ombuds office expanding its mission

Fourteen months after his appointment as the Department of Energy's National Ombudsman, Jeremy Wu says he's pleased to report his office is growing, along with his mission.

"We have committed leaders in Gen. John Gordon and Spencer Abraham," he said of



MARCIA JOHNSON/TID

Jeremy Wu

See WU, page 5

DOE submits \$19.2 billion budget

DEPARTMENT OF ENERGY

Energy Secretary Spencer Abraham submitted a \$19.2 billion budget request for Fiscal Year 2002, calling it an "important first step and prudent transition setting a course toward comprehensive change and reform as the department looks to the future."

Abraham said the budget request reflects a commitment by the Bush

Administration to moderate discretionary spending while continuing to meet critical challenges in national security, energy, science and environmental quality.

"Instead of following the status quo, the budget is principled and sends a clear signal that change is on the way. It strengthens our ability to carry out our national security responsibilities. It

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for diversity**
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**DNT celebrates
weapons excellence**
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**Earth Expo
returns to Lab**
— Page 5



LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Friday
13

All employees are invited to attend a noontime **Easter celebration** in the Bldg. 543 auditorium. It features singing, testimonial and historian/character actor Jim Meek. This event is sponsored by the Bible Study Groups at LLNL. Contact: Harry Briley at 2-9238.

...

The **Employee Store** has a variety of Easter candy in stock. All candy boxes are wrapped in festive Easter paper.

Sunday
15

A new exhibition, **Nobel Treasures from the Smithsonian Institute** opens at the Blackhawk Museum and will be exhibited through Oct. 14. The exhibit, which celebrates the 100th anniversary of the Nobel Prize, presents an overview with images and artifacts of 22 selected Nobel laureates. The museum is open Wednesday through Sunday, 10 a.m. to 5 p.m.

Monday
16

The **Lab** is closed for its spring holiday.

Wednesday
18

Morten Bremer Maeril, a visiting scholar at Sandia National Laboratories and a researcher at the Norwegian Institute of International Affairs, will discuss **"The New Nuclear Nonproliferation Treaty,"** at 10 a.m. in Bldg. 132S, room 1784. The talk is sponsored by the Center for Global Security Research. For more information, call Tami Alberto, 2-5969.

...

A representative from **Fidelity Investments** will be onsite to meet with employees April 18-19 and May 2-3. Fidelity Investments are available to UC's 403(b) participants in addition to the UC-managed investment funds. Appointments are required. Call the Fidelity Central Reservation System at 1-800-642-7131. Be sure to specify you are an LLNL employee.



The LLNL **Retirees Travel Slide Group** will meet April 24 at 2 p.m. in the Livermore Library meeting room. Bob and Juanita Berlo will present "Glacier, Geysers, and Goblins: National Parks of Idaho, Montana, Wyoming and the Dakotas."



LAB TV

BROADCAST
SCHEDULE

The DDLS talk by Richard Haver of TRW's Systems & Information Technology Group on **"Intelligence for Tomorrow"** will be rebroadcast on Lab Channel 2 Thursday, April 19, at 10 a.m., noon, 2, 4, and 8 p.m., and Friday, April 20, at 4 a.m.

Cal professor to demystify diversity

David Wellman, professor of community studies at UC Berkeley and a research sociologist at UC Santa Cruz, will present "One Nation Under God or One Nation Under Qualified: Demystifying Diversity," at 10:30 a.m. Tuesday, April 24, in the Bldg. 123 auditorium. All employees are invited.

Wellman's presentation is the second installment the Laboratory's Facilitated Diversity Dialogue Series. Breakout "dialogue" sessions will be held in various meeting rooms immediately following the presentation. The dialogue session will be held 11:30 a.m. to 1 p.m.; lunch will be served.

While America has always been a diverse society, Wellman believes we are "finally beginning to recognize our diversity and to realize that we haven't been doing a very good job making our diversity work. Until recently, we have not had to make diversity work because we have been permitted to live with myths that allow us to ignore this serious question.

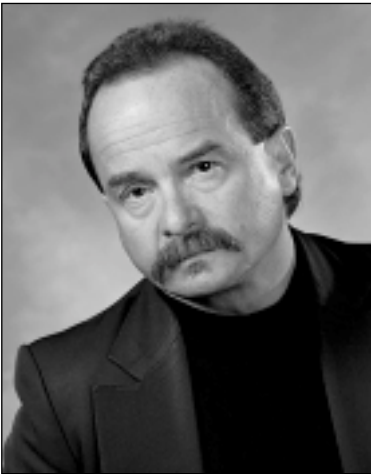
"Today's globalizing world, however, will no longer permit us the luxury of these myths. If we are to survive as a nation, Americans need to learn how to become competent actors in a diverse world."

Wellman's talk will raise three questions: What do we mean by "diversity?" Why must we pursue policies that promote and recognize diversity? How do we act effectively to make diversity work?

Wellman is author of "Portraits of White Racism," "The Union Makes Us Strong: Radical Unionism on the San Francisco Waterfront," and the co-author of "Whitewashing Race: The Logic of Colorblind Policies in a Color Conscious America."

Wellman received his master's and doctorate in sociology from UC Berkeley.

For more information on the talk, or to sign up for one of the dialogue sessions, contact Michele Cardenas, 3-2796.



David Wellman

Tamales, Cinco de Mayo lunches on sale

The Amigos Unidos Employee Networking Group is taking orders for tamales prior to its annual Cinco de Mayo Fiesta, which will be held Friday, May 4, 11:30 a.m. to 1 p.m. in the pool area.

Employees may pre-order tamales through April 27. Pre-order prices are \$13/dozen, \$7/half-dozen (\$14/dozen, \$7.50/ half-dozen on the day of the event).

Traditional Cinco de Mayo lunches will also be available for \$6.50. Selections are chile Colorado, carnitas or tamale plate, which includes rice, beans, chips/salsa (or tortillas) and a soft drink.

All proceeds go toward the Amigos Unidos Scholarship Fund.

To order tamales or a Cinco de Mayo lunch contact: Margaret Single, Bldg. 571, 3-6611; Rosa Yamamoto, Bldg. 1404, 3-2004; Santiago Parra, Bldg. 332, 4-2811; Irene Ortega, Bldg. 113, 2-6350; Laura Martinez, Bldg. 5981, 4-2524;



Patricia Martinez, Bldg. 4726, 3-9080; Michael Martin, Bldg. 551E, 3-6580; Teresa Hauck, Bldg. 1481, 2-8777; Marina Gonzalez, Bldg. 571, 3-7904; Carlos Avalue, Bldg. 131, 3-1178; David Castro, Bldg. 5477, 3-7556; Michele Cardenas, Bldg. 571, 3-2796; Jessica Barraza, Bldg. 1477, 2-6750; Maria Barraza, Bldg. 671, 3-7063; Ray Reyes, Bldg. 511, 3-0467; Suzanne Cabral, Trailer 3726, 2-7889; or Yahel De La Cruz, Trailer 3627, 4-3507.

IN MEMORIAM

Dale Dalgas

Dale Robert Dalgas, a retired machinist, died March 20 in Pleasanton. He was 72.

Dalgas worked at the Lab 30 years, retiring in the 1980s. He was a native of Nebraska and lived in Livermore for 20 years. He enjoyed machine shop work.

A nephew, Gary, survives him.

Contributions in his memory may be made to the American Cancer Society, Tri-Valley Unit, 7000 Village Parkway, Suite L, Dublin 94568.

Arthur Harvey

Services were held Wednesday for Arthur Remahl Harvey, a Lab retiree who died April 6 in Concord. He was 75.

Harvey worked as a mechanical engineer at the Lab for 30 years before retiring in 1989.

A native of Oakland, Harvey lived in Walnut Creek for 40 years. He served in the Army Air Corps during World War II and graduated from UC Berkeley.

Harvey was a member of the Cal Alumni Association, the Society of Manufacturing

Engineers and the Walnut Creek Senior Center. He enjoyed computers.

Survivors include his wife of 24 years, Juanita; daughters Sandra, Robin, Janice and Erin; sons Robert, John and Michael, 11 grandchildren and three great grandchildren.

Contributions in his memory may be made to the American Cancer Society, 1700 Webster St., Oakland, CA 94612.

Newsline

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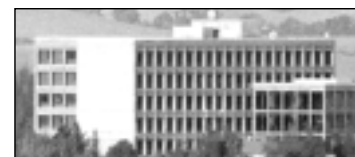
Contacts:

Managing editor: Lynda Seaver, 3-3103
Writers: Sheri Byrd, 2-2379; Don Johnston, 3-4902; Elizabeth Rajs, 4-5806
Designer: Julie Korhummel, 2-9709
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AROUND THE LAB



Weapons Program employees honored for 'excellence'

NEWSLINE STAFF REPORT

The Defense and Nuclear Technologies Directorate, the National Nuclear Security Administration and the Department of Energy handed out 17 awards for weapons excellence to 127 Lab employees Tuesday.

The Weapons Recognition of Excellence Awards are given annually to recognize those people whose career achievements often go unnoticed, in part due to security reasons.

Michael Anastasio, AD for the DNT Directorate, felt the awards were special for two reasons. "These have been a challenging one or two years for us, certainly more challenging than anything I can remember," he said. "For us to accomplish this outstanding body of work in spite of that environment says a lot about the dedication and quality of the people involved."

"These people often go unrecognized, simply due to the classified nature of their work. It is important to affirm the significant contributions they have made," Anastasio said.

"The people who serve the nation are not just the people in uniform," added Brig. Gen. Thomas Gioconda, acting deputy administrator for Defense Programs, NNSA. Gioconda came to the Lab to hand out the honors. "These people have served their country well."

Gioconda also thanked the families in attendance during the special awards ceremony. "These families often had to wait for mom or dad to get home because the things they were doing were too important to the nation."

He also praised the Lab as "a giant" whose Weapons Program accomplishments "set it apart" from other NNSA facilities.

Gioconda said it is the work of the weapons labs that have helped "things to go right in NNSA. We are out of the headlines and back to work doing the things we do best."

DOE established the Weapons Recognition of Excellence Awards in the early 1980s to reward laboratory and plant employees directly associated with the Nuclear Weapons Program. Tuesday's ceremony recognized recipients for 1998, 1999 and 2000. Lab employees were awarded for a wide body of work, from life extension efforts for various weapons to subcritical testing to development of key codes necessary for stockpile stewardship.

In addition to Gioconda, Anastasio and Deputy AD Bill Bookless handed out the awards.



JOSEPH MARTINEZ/TID

Brig. Gen. Thomas Gioconda (left) with members of the team that worked on the W87 Life Extension Program.

O'Brien, Jack Robbins, Larry Sedlacek, Don Smith, Derek Wapman.

This team was responsible for design, testing, production liaison and certification for the W87 Life Extension Program. This program is the first refurbishment of a nuclear system performed under the Stockpile Stewardship Program. The team used innovative techniques in both ground and flight testing, advanced computer simulations of the dynamic system response and of nuclear performance to develop in-depth understanding of the effects of modifications, and to establish the basis for certification.

Subcritical Experiments Team — Walter D. Dekin, Mike Dunning, Donald C. Ecker, Jr., Pat Egan, Bret Knapp, Mark Martinez, Marion "Hugh" Newman, Chad Noble, James L. Reed, Jerry Reiswig, James Sevier, Paul J. Thompson, Ben Wu.

This joint N Program/B Program team was recognized for creating the underground laboratory and successfully designing, fabricating and executing the complex Bagpipe and Clarinet subcritical experiments. N Program provided an optics quality state-of-the-art laboratory while meeting stringent containment criteria in the dirt environment of the Ula tunnel complex. The B Program group responsible for the design and fabrication of Bagpipe and Clarinet experiments accomplished its objectives despite the complications caused by the stand-down of the plutonium facility. With limited resources and increased administrative processes, they made modifications to experiments that allowed them to obtain quality data on ejecta, equation of state, and density of plutonium after it is shocked by high explosives.

Proton Radiography Advanced Technology Team — Peter Barnes, Anthony Chargin, Edward Hartouni, Jeff Hockman, Mike Kreisler, Lloyd Multhauf, Ron Soltz.

This team led the LLNL effort to investigate the use of high-energy protons as a probe for weapons-related dynamic radiography. Using facilities at LLNL and LANL, the team developed and executed a suite of critical experiments that proved protons could be used to measure the energy lost traversing a thick target, enabling information to be extracted about target density. This required not only careful experimentation but also the design and implementation of an innovative detector. An additional series of experiments at Brookhaven produced more than 3,000 detailed, high-resolution radiographs that have been used to answer many questions about the utility of this new radiographic probe.

Advanced Radiographic Imaging Team — Norman Back and David Goosman.

Back and Goosman developed new technologies that, for the first time, enable the X-ray imaging of the imploded interiors of the largest stockpile nuclear weapons. By combining the recently developed LLNL gamma ray camera with the first application of a tantalum X-ray anti-scatter shield, they have taken the first ever "core-punch" images of an implosion previously deemed impossible to image. By developing and combining these two technologies, Goosman and Back have made X-ray imaging a competitive contender for advanced hydro-testing, and have made the important tool of X-ray image diagnostics available for examining all of the weapons in the U.S. nuclear weapons stockpile.

W79 and W56 Dismantlement Teams — Werner Bergman, Jim Dickie, Edward Greybeck, Coleman Johnson, Howard Lambert, Jim LeMay, John Lietzke, Tom McGee, Jeff Oh, Derek Wapman.

This team participated as a key leader in the development and implementation of dismantlement processes and equipment for the W79 and W56. The W79 is a very complex

weapon that required development of a new and potentially hazardous technology to be able to remove the high explosive from the pit. The W56 team worked with Pantex, DOE and Sandia to completely redesign the process, equipment, safety basis and training aids for the W56. This effort is now used as a prime example of how projects for nuclear weapons operations should be done.

1999

Michael (Marty) Marinak — Marinak was recognized for his work in developing a state-of-the-art multi-physics 3-D hydrodynamic simulation code (HYDRA), and using this code for effective analysis of ongoing experiments and NIF ignition capsule designs.

His simulations and analysis of irradiation uniformity and target fabrication constraints on ignition capsule behavior are being used to set the target fabrication requirements on ignition capsules. He has also used HYDRA to investigate instabilities associated with complex hydrodynamic flows. As a result of Marinak's efforts, it has become possible to simulate the 3-D aspects of these experiments for the first time. This work is fundamental to the verification and validation effort within the ASCI program.

Mark Seager — Seager was recognized for essential contributions in the planning of the procurement, installation and stabilization of the ASCI terascale systems in the classified and unclassified environments at LLNL. Seager has acted as the principal technical representative of this Laboratory in working detailed configuration and capability issues with IBM. This work led to the successful installation of the SST system in 1999. Similarly, he paved the way for a successful 12+ TeraOPs installation in 2000.

W76 Dual Revalidation Study Team — Cynthia Nitta, project leader; Roger Logan, deputy project leader; Norman Back, Joseph Bauer, Dan Calef, Steven Chidester, Jack Cutting, Anthony DePiero, Greg DiPeso, Robert Druce, Frances Foltz, Pat Harwood, Harvey Hopkins, Anthony Lee, Stephen Murray, Susarla Murty, Margaret Peggy Olsen, David Sam, Peter Stry, Craig Tarver, Alan Wan, John Wild, Kris Winer.

The LLNL Independent Review Team for the W76/Mk4 Dual Revalidation Study successfully performed an independent evaluation of this stockpile system. Their work included an extensive set of new calculations with best available modern codes of nuclear component performance and response to Stockpile-to-Target Sequence (STS) conditions. The project team also conducted the first-ever core punch hydrodynamic test on this primary, a system-level vibration test, and extensive testing to characterize high explosive safety and performance. Their in-depth analysis provided clear values for system margins to meet the requirements of both the military characteristics and STS-defined normal, abnormal and hostile environments.

Burn Code Milepost Code Team — Gary Carlson, project leader; Grant Bazan, Chris Clouse, Mike Collette, Becky Darlington, Shawn Dawson, Rob Falgout, Jeff Grandy, Frank Graziani, Greg Greenman, Chris Hendrickson, B.I. Jun, Marty Marinak, Tom McAbee, Jeremy Meredith, Ivan Otero, Richard Procassini, Brian Pudliner, John Rogers, Bob Tipton.

The Burn Code Milepost Code Team made exceptional contributions to advancing the state of the art in weapons simulation in carrying out the CY99 ASCI Burn Code Milepost. This milestone marked the first-ever 3-D simulation of a nuclear weapon primary explosion, and represents a key advance in capability.

Vessel Confinement Team — Vaughn Brugman, David Conrad, Bart Costerus, Walt Dekin, Pat Gennaro, Bret Knapp, Ting Lo, John Scott.

This team was recognized for the development and execution of a vessel confinement technique for conducting subcritical experiments (SCEs). They recognized that by confining individual experiments in modest-sized steel vessels, a single underground alcove costing \$10-\$20 million could be reused for 10-20 experiments. This approach allows a single diagnostics system to be established for an entire series of experiments, improves data quality by shortening the optical path, and dramatically shortens the turn-around

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NEWS YOU CAN USE

BUDGET

Continued from page 1

meets our key priorities for health and safety. It advances our energy security, and supports important scientific research. And, it reflects President Bush's commitments and my priorities for reform," Abraham said.

"This budget sets a sensible course by clearly fulfilling commitments and establishing key priorities, but at the same time signals our intention to rethink a host of programs while we craft the Bush Administration's policy."

Noting that the ongoing government-wide reviews for national security and energy policy helped shape the budget, Abraham said the FY 2002 budget maintains the flexibility to respond to changes in policy. "Budgets must follow policy, which in turn must follow strategic thinking. Ongoing policy reviews will evaluate the department's critical tasks and will impact the department more than any other in government."

Abraham also announced that he will direct the department to conduct a sweeping review of its Environmental Management programs and activities while maintaining the department's commitment to health and safety and continued environmental cleanup with the ultimate goal of a "stronger, more effective and efficient environmental management program."

Funding priorities for the FY2002 budget follow four business lines:

• **National Security — \$7.2 billion, an increase of \$180 million, or 2.6 percent above FY2001.**

The total funding for the National Nuclear Security Administration (NNSA), is \$6.8 billion. This is a \$136 million, or 2 percent increase over the FY2001 appropriation. Within this total, funding has been shifted to weapons activities to increase support for the near- and long-term needs of the department's nuclear weapons stockpile.

The DOE Stockpile Stewardship Program budget is \$5.3 billion, an increase of 4.6 percent over FY 2001, to make immediate investments to support long-term stockpile stewardship and weapons refurbish-

ment programs.

As part of the Stockpile Stewardship Program, the department will launch several campaigns to develop new capabilities to assess weapon status, extend weapon life, and certify that the stockpile remains safe.

To support these efforts, \$2 billion is requested for these campaigns. The department's Advanced Strategic Computing Initiative and construction of the world's largest scientific laser, the National Ignition Facility, are two examples of the significant scale and sophistication required in this effort.

The budget calls for \$1.03 billion for Safeguards and Security throughout the DOE complex — a \$100 million increase over the FY2001-enacted level. Additionally, the request provides \$109.7 million for cyber security — an increase of \$32.8 million above FY2001, to enhance protection of information in the NNSA and Science programs. This increase in funding will also be used to improve physical security throughout the complex and enhance materials management and surveillance.

In addition to the NNSA programs, there are five other essential national security programs — Intelligence, Counterintelligence, Independent Oversight and Performance Assurance, Security and Emergency Operations, and Worker and Community Transition. The FY2002 request for these five programs total \$395.1 million, an increase of \$44.4 million or 12.7 percent.

• **Energy Resources — \$2.3 billion, a decrease of \$196 million, or 7.9 percent below FY2001.**

Abraham said the Clean Coal Power Initiative is a new effort that reflects the president's commitment to clean coal technology. The request provides new funding, \$150 million in federal matching funds, for innovations in coal-fired power technology.

This year's budget also marks the beginning of the president's commitment to increase funding for Weatherization Assistance by \$1.4 billion over 10 years.

• **Environmental Quality — \$6.5 billion, a \$246 million decrease, or 3.6 percent below FY2001.**

This year's Environmental Management budget of \$5.9 billion fulfills commitments to major closure

sites, promotes important safety and environmental projects involving treatment and disposal of nuclear materials, and supports the winterization and cold standby of the Portsmouth Gaseous Diffusion Plant in Ohio. The budget also anticipates an upcoming, comprehensive DOE Environmental Management Mission Assessment. This assessment will ensure that taxpayer dollars are used to achieve the overriding goal of a safe and expeditious cleanup of DOE weapons sites.

With this budget, the department retains its capability to receive transuranic waste for permanent disposal at the Waste Isolation Pilot Plant in Carlsbad, N.M., continue the movement of spent fuel to safe, dry storage at the Hanford, Wash., and Idaho sites; and continue constructing the Advanced Mixed Waste Treatment Plant at Idaho; and accelerate cleanup activities at Portsmouth, Ohio.

• **Science and Technology — \$3.2 billion, an increase of 0.1 percent over FY2001.**

"The department will maintain its commitment to critical scientific research," Abraham said. Our scientific advances contribute to America's competitiveness around the world. Our Basic Energy Science program brings together chemical, biological and other sciences to uncover fundamental knowledge that will help us to better utilize our energy resources."

The budget calls for \$19.5 million to support the next phase of research in the Human Genome Program, the Genomes to Life initiative to explore how genomes account for the functioning of cells.

Also included in this year's science budget is \$443 million for biological and environmental research, and \$166 million for the Advanced Scientific Computing Research program.

A total of \$445 million is requested for the Office of Civilian Radioactive Waste Management. Work during the fiscal year will focus on continuing a transition from predominantly investigative science at Yucca Mountain to engineering and design to support the preparation of a license application for submittal to the Nuclear Regulatory Commission, if the site is determined to be scientifically suitable.

The budget also includes \$140 million for the Office of Environment, Safety and Health.

Technical Meeting Calendar

Friday
13

H DIVISION

"Periodic Composites: Tailoring Thermal and Optical Properties," by John Albrecht, Naval Research Laboratory. 10 a.m., Bldg. 319, room 205 (uncleared area). Contacts: Andrew Williamson, 2-8285, or Darlene Klein, 4-4844.

MATERIALS SCIENCE & TECHNOLOGY

"Defect Mitigation in Mo/Si Multilayer-Coated Masks for EUV Lithography," by Paul Mirkarimi. 3:30 p.m., Bldg. 235, room 1090 (uncleared area). Coffee and cookies will be served at 3:20 p.m. Contact: Thomas E. Felter, 2-8012.

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Radio Pulsars as Stars," by Stephen Thorsett, University of California, Santa Cruz. Noon, Bldg. 319, room 205 (open area). Contact: Joanna Allen, 3-0621, or see <http://www.llnl.gov/urp/IGPP/SemCalendar/IGPPSemCal.html>

Tuesday
17

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"A Survey of Some Recent Results on Two-level Finite Element Preconditioning

Methods," by Owe Axelsson, University of Nijmegen. 10 a.m., Bldg. 451, room 1025. Contacts: Panayot Vassilevski, 3-5685, or Leslie Bills, 3-8927. For more information, see <http://www.llnl.gov/casc/calendar.shtml>

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"2MASS View of the Large Magellanic Cloud: Populations, Structure, Kinematics," by Sergei Nikolaev, California Institute of Technology. Noon, Bldg. 319, room 205 (uncleared area). Contact: Joanna Allen, 3-0621, <http://www.llnl.gov/urp/IGPP/SemCalendar/IGPPSemCal.html>

Wednesday
18

H DIVISION

"Time-Dependent Density Functional Theory: Does It Help Us to Tackle the Problem of Excited States?" by Oleg Pankratov, University of Erlangen-Nuernberg (Germany) 10 a.m., Bldg. 219, room 163 (uncleared area). Contacts: John Klepeis, 2-6103, or Darlene Klein, 4-4844.

CENTER FOR GLOBAL SECURITY RESEARCH

"The New Nuclear Non-Proliferation Treaty," by Morten Bremer Maerli, Sandia National Laboratories and Norwegian Institute of International Affairs. 10 a.m., Bldg. 132S, room

1784 (open area). Contact: Tami Alberto, 2-5969.

Friday
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H DIVISION

"Computational Investigation of Laser-Induced Processes in Organic Materials," by Leonid Zhigilei, University of Virginia, Charlottesville, Va. 10:30 a.m., Bldg. 319, room 205 (open area) Contacts: Lin Yang, 4-4153, and Donna Vercelli, 2-0976.

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Star Formation Histories of Some Local Group Galaxies — What Do They Tell Us?" by Jon Holtzman, New Mexico State University. Noon, Bldg. 319, room 205 (open area). Contact: Joanna Allen, 3-0621. <http://www.llnl.gov/urp/IGPP/SemCalendar/IGPPSemCal.html>

The deadline for the next Technical Meeting Calendar is noon, Wednesday, April 18.

Send your input to tmc-submit@llnl.gov. For information on electronic mail, contact the registrar at registrar@llnl.gov.

NEWS OF NOTE



Earth Expo 2001 spotlights Lab's conservation efforts

By Don Johnston

NEWSLINE STAFF WRITER

Where can you go to learn how to make bio-diesel from cooking oil, see wild animals up close, get your bicycle inspected and tuned for spring rides, and savor delicacies from around the world while enjoying the mellifluous strains of vintage brass music?

Why, Earth Expo 2001, of course, to be held from 11 a.m. to 2 p.m. Thursday, April 19, on the lawn area adjoining the employee store and swimming pool.

The annual Lab and community event will spotlight innovative energy technologies as well as regional and local efforts to reduce waste, conserve energy and protect the environment.

"Widespread concern about energy issues should make related exhibits and displays of innovative technologies of particular interest this year," said Kent Wilson, the Lab's Recycling (and Earth Expo) Coordinator. "Earth Expo is an opportunity to bring together people from the community, Lab researchers, government agencies and entrepreneurs working on a variety of technologies."

Laboratory exhibitors will include: the Energy and Environmental Sciences Directorate; Energy Management and Mechanical Utilities; Environmental Restoration; Hazardous Waste



FILE PHOTO

Time for a tune-up? Members of the Lab Cycletrons will again offer bicycle safety inspections and repairs during Thursday's Earth Expo 2001.

Management; LLNL Wildlife Specialists; Water Guidance and Monitoring Group; LLNL Environmental Community Relations and the Lab Fire Department.

Among agencies offering informational displays will be Lawrence Berkeley Laboratory; DOE Oakland; California Water Service; Zone 7 Water Agency; Bay Area Air Quality Manage-

ment District; U.S. Geological Survey; Alameda County Waste Management and California Integrated Waste Management.

Information on mass transit and vanpools will also be available from Livermore Amador Valley Transit; Enterprise Rideshare; SMART; Commute Connections; RIDES and Tri Delta Transit.

The Cycletrons LLESA activity group will again offer bicycle safety inspections and repairs. Drop your bike off on the way in, tour the exhibits and enjoy the food and music, then pick up your bike on the way out.

Other Earth Day highlights include LLNL's "Fun with Science," a demonstration by Biodiesel ORL, office products from Boise Cascade, Blair Barnett's hybrid car, landscaping and gardening options from Alden Lane Nursey and animals from the Lindsey Wildlife Museum.

LLESA groups will offer food and refreshments: the Association of Black Laboratory Employees will offer sweet potato pie; LLNL Women's Association, cakes, cookies and candy; American Indian Activity Group, hamburgers, chips and soda; Asian Pacific Activity Group, an Indian combo plate and the Chinese American Activity Group, egg rolls.

WU

Continued from page 1

the NNSA administrator and the Energy secretary, respectively.

"Some people said this office would close after seven days," Wu joked, adding that even he was uncertain whether his job would continue following the departure of former Secretary Bill Richardson, who appointed him.

"Both Gordon and Abraham are very supportive of this office. Theirs is a message of inclusiveness."

Today is Wu's final day in a three-day visit to the Laboratory, in which he met with employees, special interest groups and senior managers. On Wednesday he held a town hall meeting for all employees, in which he gave a progress report on his office.

Wu said he still acts as the "eyes and ears" for the Energy secretary, as well as the administrator for the NNSA. But now his office is growing. Whereas he was a one-man operation during his first visit in March 2000, he now oversees a staff of five.

"We want to serve as the catalyst to building trust and producing positive change to advance a diverse, productive and hospitable workplace," Wu said of his office's mission and staff. "I see this job as an agent of change. We will look for what actions are needed and what are the solutions."

Wu has spent much of the last year touring the various DOE and NNSA facilities, where "my main job has been to listen." Just as he did during his Lab visit, he has met with various employees, employee groups and managers, held town hall meetings and debriefing sessions with various directors.

In the coming year Wu's office will focus attention on recruitment and retention, issues that are crucial at every DOE and NNSA facility, he said.

Wu took a few moments during his town hall meeting to promote the Lab's upcoming employee survey, which will also address recruitment and retention, along with diversity and various work/life issues. Pointing to various surveys his own office has conducted, Wu said "a high survey response means high credibility. I encourage everyone to fill out this survey...to provide a true measure of the workplace environment."

ROTC Day to showcase Lab programs that benefit military partnerships

By Anne M. Stark

PUBLIC AFFAIRS

Employees may notice a few more military uniforms on site come Wednesday as the Laboratory sponsors its annual ROTC Day.

Lab officials expect more than 80 Reserve Officer Training Corps cadets, midshipmen and their officers statewide to attend the event. A select number of Junior ROTC cadets from California high schools are also expected to visit the Lab for the daylong event and internship opportunities at the Lab.

The Laboratory's ROTC Day has become a part of the Laboratory director's efforts to strengthen the relationship between LLNL and the Department of Defense. The ROTC Day is a component of the Science & Technology Education Program's (STEP) Military Academic Research Association (MARA) and ROTC Intern program in partnership with the Lab's National Security Office.

The event, which starts at 8:45 a.m. in Bldg. 123 and runs until 5:30 p.m., will include a panel discussion featuring Brig. Gen. Thomas Gioconda, National Nuclear Security Administration acting deputy administrator for Defense Programs; Col. Wayne Mudge, AFROTC southwest regional commander; Navy Capt. Thomas McCaffrey, STRATCOM liaison assigned to LLNL; and George Miller, associate director of the Lab's National Ignition Facility Program.

The panel will discuss future careers in the military and the role of science and engineering.

After the panel discussion and lunch, cadets are scheduled to attend a discussion led by Director Emeritus Edward Teller, who will share his thoughts and answer questions.

In the afternoon, ROTC members will be touring several Lab facilities including the High

Explosives Applications Facility (HEAF), where high explosives can be safely detonated in specially designed vessels that can withstand quantities as high as 10 kg, and impact experiments are carried out with a six-inch bore gun that accelerates flyers to a velocity of several kilometers per second; the Chemical and Biological Nonproliferation Program, in which researchers are testing state-of-the-art equipment to detect chemical and biological agents; the Conflict Simulation Laboratory, where battlefield simulations or "war games" are carried out; and the National Atmospheric Release Advisory Center.

"As stated in LLNL's FY2001-2005 Institutional Plan, the Department of Defense's emerging strategy is for a military of the future that is technologically superior and dominant enough to win quickly, decisively and with minimum casualties on all sides," said Barry Goldman, manager of STEP's undergraduate and graduate internships. "In the past, LLNL Military Research Associates have benefited from the experiences gained from the Lab. They've used the knowledge and people that they met at the Lab to support future military projects and programs. We hope the same will apply to the ROTC participating in this day and the internship opportunities."

ROTC is a college elective that combines classroom time with hands-on experience. Students also learn leadership and management skills.

Junior ROTC is an elective high school course taught by military personnel at selected private and public high schools in the United States and its territories. It is also taught abroad through the Department of Defense Dependents School System, which primarily serves the dependents of military personnel stationed overseas.



CLASSIFIED ADS

Check out the Employee Ads Web Services site at:
https://www-ais.llnl.gov/llnl_only/apps/newsline/ads

AUTOMOBILES

1987 Camero, 86,630 orig miles, recently smogged, new trans/clutch, CD w/amp, perf exhaust \$3500/BO. 925-373-0247

1988 - Camaro, V8/305, AT, AC, cruise, 60K on engine, original owner, \$2950 925-447-8613

1992 - Honda LX Station Wagon, Orig. Owner, maint. regularly, excellent shape and gas milage, Kelley BB \$7200, Asking \$7,000 OBO 925-447-3618

2000 - VW Jetta GL-Silver w/ grey interior, CD changer, 5 spd man. trans.,keyless entry, security, 16,000 miles. 4 cyl. 100k bumper to bumper warranty. 925-855-8368

1995 - Mercury Cougar, Pearl white, tan leather int.,very clean, loaded with all the extras, low miles and all maint records. \$10. 925-447-3695

1993 - Ford Thunderbird V6, 190K mi, 70K on engine, good condition, charcoal grey, \$3200 OBO. 925-254-7333

1989 - Isuzu 4x4x4x4 shortbed. Looks like Jeep, extremely well maintained. Looks new. Air, Ricarro seats, towe package special wheels, etc. \$4,500.00 408-263-8822

1991 - Honda Accord Ex. Wagon AM/FM Cass, sun roof, new timing belt and battery. One owner 171K mi. \$5,700 925-447-4406

1993 - Oldsmobile Achieva 93, white, ABS, stereo, good condition, original owner, low Blue Book, \$2900, call after 7pm, 209-830-9784

1985 - Mazda RX7, 159KMi, A/C, New Tires & CD, Very Good Mech. Cond. \$2500 925-443-4349

1985 - Mercury Grand Marquis. Runs good. Looks Bad. Trailer hitch. w/smog certificate. \$1000 209-521-7002

AUTOMOBILE ACCESSORIES

4-P225/75R15 Firestone Wilderness All Terrain Tires (not recalled model) less than 20K miles. \$12.00 each, 4 for \$40.00 925-846-3548

1997 Chevrolet 8 ft. bed, bedliner and tail-gate off H/D 4x4. excell cond. Make offer. 925-447-4611

15 Inch TIRES- (1) 225/75/R15 on 6 bolt rim, excellent \$25, and (1) 235/75/R15 very good \$20 925-447-7070

BICYCLES

Men's mountain bike, new tires, excellent condition \$125 925-736-7799

Trailer bike. Also known as a Tagalong, except this one is lighter and has 3 speeds. Perfect for you and your young child. \$125 415-928-4469

BOATS

1975 16ft. MONARCH Bass Boat. Call for details. Too many extras to list. Nice fishing boat. \$4000.00. pgr. 05127. eves. 925-625-1239

Prop for Merc outdrive, stainless, variable pitch, \$150 925-447-8804

30 ft Trojan flybridge cruiser. Twin Chrysler 318s. Double-planked mahogany hull with teak decks, kept under cover in fresh water. Ask 11,500 925-447-2308

ELECTRONIC EQUIPMENT

HiEnd home theater system \$400; N64 game system+games \$250; Pair hifi speakers \$50; 100s LP records, make offer 925-736-7799

RCA Boom box,CD Stereo,AM/FM, Cassette Recorder. New,Unopened (gift). \$50. Used Magnavox boom box in great condition for \$40. 925-443-0743

Dream Cast- 2-controllers, 1-game shark, 2- games (NFL 2K, and Tony Hawk2) code books \$120.00. 209-823-5126

Macintosh PPC- 7300/200, 160+ RAM, 2Gb Hd, VooDoo 3 16mb graphics card, 17 inch Monitor (Viewsonic)--- \$ 600/offer. 209-576-0299

Technics 3 Way Pedastal Speakers, 200W input, 91dBW output. Great Sound. \$50.00/obo 925-606-4363

GIVEAWAY

Japanese Black Pine Topiary. 6-ft high, 6-ft

circumference. In ground, you dig up and haul away from Tracy. FREE! 209-836-4349

Big screen Magnavox TV,46inch screen, 10 years old. Needs some work, takes a while to get it going, but once it is going a good picture. You pick-up. 925-371-6592

HOUSEHOLD

Eddie Bauer all-terrain stroller, large space underneath for packages and adult drink tray. \$50 925-447-4790

Refrigerator/freezer. Side-by-side. Ice maker. Off-white. Works great. \$150. 925-443-5213

Modern solid walnut desk (\$125), Sony 17in TV (\$100), Electrostatic room airpurifier, great for allergy sufferers \$95; 925-736-7799

Cedar outdoor loveseat glider, \$55; mens brown leather jacket, removable lining, like new, \$95. 925-454-9291

Framed painting by local artist Norma Webb - 1980 Collier Canyon Scene 32x44 \$175, toaster oven \$20 925-447-8613

Mattress set, queen. Like new, hardly used. Was in a guest bedroom. \$150. 925-606-0260

Dining Room Table, sturdy, 2 wide leaves, six matching chairs. With leaves length is 8 feet. Nice set. \$600. 925-606-1216

Whirlpool Heavy Duty Washer, Almond, good cond. \$50.00. Kenmore Super Capacity Plus Dryer, 2 yrs. old, mint cond. \$200.00 925-373-7398

Garage Sale. Multi-Family.Saturday, April 28. 9:00 to 2:00.4811 Kimberley Common, Livermore. Household, linens, cosmetics, toys, clothing, more! 925-455-5245

Corner Group Sofa w/recliners. Excellent Condition. \$350 OBO. 925-634-7513

Five solid maple captains chairs \$375. 510-236-6569

Wolf Gas Range- Commercial Model-4 burners, grill, large oven. Approx. 16 yrs old. \$975.00 209-835-3370

Arm chair, wood, green cushions, \$30. Rocking chair, wood, \$40. Great condition. House plants, many,large, healthy \$10-20. 925-443-0743

Refridgerator 20 CF Almond Side by Side Whirlpool. Approx. 7 yrs old. \$300.00 925-456-0666

This End Up couch frame (large) \$50, ikea bookcase, good condition \$25 209-835-4188

Art Print: Nude with Calla Lilies by Diego Rivera; 34.5in x 43.5in Brand new. \$25.00 (retail \$40.00) 510-538-7852

MISCELLANEOUS

Graco brand wind-up swing with headrest for newborn up to 20 lbs. \$25 925-447-4790

Massage Table for sale (only been used 6 times) Earthlite with Flannel sheets. Price \$425.00 or BO 209-962-5468

Commercial burglar alarm control boxes, 3 available, also unused Ortho pest control chemicals and dormant sprays, too numerous to list, make offer 925-736-7799

Blood pressure monitor, one step auto inflation, like new \$50, Samsonite 24 inch hardside suitcase (wineberry) \$35 925-447-8613

Giants tickets-April 24th and June 13th. Night games. View section 302, Row 2, seats 7 thru 10... Watch em splash! \$105.00 per game. Cash please. 209-835-3370

U2 Tickets two each. April 20th San Jose show. 16th row, sort of off to the side. Tickets cost \$130.00 ea. Both for \$200.00 209-823-7638

Acura Legend taillight assembly from e84 car, left. \$35 925-447-7070

Doghouse for large dog - \$40/obo 925-371-5576

3 tickets to NSync concert at 7:30 pm, July 21, 2001, 2nd deck, Oakland Coliseum for \$145 (a 10% discount) or BO. 925-461-1515

Briefcase, soft black leather. Handle & shoulder strap. Many pockets, great for travel too. Rarely used. Paid \$100, sell \$45. 209-606-4891

MOTORCYCLES

1983 - Honda Silverwing GL650, wind-screen, shaft drive, liquid cooled, 18.5k mi., Excellent Condition. \$1400. 925-828-2609

1997 - Yamaha YZ250, excellent condition. Pro Circuit pipe, FMF silencer and extras. \$3600 obo. 209-744-8470

1998 - Kawasaki KLR-650 Very Clean and Runs like new. New Avon Gripster Tires, Sprockets and Chain. Gas Tank holds 6+ Gallons. Liquid cooled. 209-830-7576

MUSIC INSTRUMENTS

Violin, Palatino (full size) with good quality bow, case, and shoulder rest. All items brand new. \$220 OBO. 925-443-0743

PETS & SUPPLIES

Fish tank & accessories, pump, lights, perfect & great for kids \$25 925-736-7799

Registered Quarter Horse, gelding 16 years old, well trained, used in shows, goes English and Western, jumps. \$2,300. 925-447-0343

Bearded Dragon, Female? Approx. 3yr old. 50 gal. aquar., heat/light, food & water dish. All for \$250.00 209-523-8931

Youth-size English Saddle - Crosby Corinthian Close Contact, excellent condition, for child under 12. \$300. 925-426-0125

Free Small dog, cream color, very good with kids, animals, people. Very happy animal. 209-530-9422

Cocker Spaniel - blonde, beautiful & loving. Moving and cannot take with. Ideal for active family with children. Free to loving home. 209-477-5879

Persian cats, 3 years old, 1 male, 1 female, all shots. Must find a new home. 925-447-3677

RECREATION EQUIPMENT

Golf clubs set&bag \$45, Legos set for kids, many pieces and board \$45 925-736-7799

Cardio glide bike \$25, Ab roller \$10. excell cond. 925-447-4611

96 Damon UltraSport 28ft Motorhome. Too many extras to list here. See RV in Lab parking lot A-8 (B.181). 33K miles. \$32,500 obo. 209-835-4969

Total Gym, \$250. Nordic Track \$125. Both pieces hardly used and like new condition. Prices negotiable. 209-529-1809

19FT 1995 Wilderness Travel Trailer, Very Good Condition, A/C, M/W, Heater, Refrig, Stove, Awning. Must sell. \$7,600 OBO 707-570-2775

1990 Holiday Rambler 30 foot, fully loaded \$22,500/obo 454 Chevy eng. 925-447-9179

Ab-diver outfit: wet suit for 5ft11in, booties, gloves, ab-irons, ab-gage, weight belt. Going to AZ. \$40. 925-455-0383

Youth Kelly Red Sleeping bag, polyester fill, used few times, very clean, \$40/B.O. 925-443-3106

20% Share in 1977 T-210. 2250hrs. NDH. King radios, Autopilot Hangared at LVK 925-443-8831

1996 Coachmen Mirada Class A Motorhome, 30ft. Excellent condition, low miles. \$36,500. 925-449-1606

1994 Weekender cabover camper model 1010, extended queenbed, A/C, Awning, extention mirrors and extended tow bar included, great shape, \$8,750 OBO 925-447-4797

Garrets Metal Detector GTAX-1000 full discrimination, VCR tape like new. Find coin, gold, silver, antiques, retails \$600 asking \$400 OBO. 925-606-9847

1985 Vacationeer 11 1/2 truck camper. Fully self-contained; luxury interior. Excellent condition inside and out. Must see. \$4,500.00 firm. 925-456-3010

1989 Ford, Mallard class C Motorhome,27ft. Good condition. Sleeps 6, microwave, some accessories included. \$15,500. 209-239-7242

Vacationer self contained camper,2w refer,shwr, toilet,w.coolr,Q. bed,hyd jks,gd lyout/shape nds some maint. \$750 firm 925-684-9252

1996 Holiday Rambler Endeavor LE ,diesel pusher,18000 miles, super slide out,basement model,38 feet long, fully

loaded.call after 6:00 pm. 209-748-2780

RIDESHARING

Express your commute, call 2-RIDE for more information or visit the web site at <http://www-r.llnl.gov/tsmp/> for more information

Modesto - Space available on 14 passenger luxury vanpool, 8-4:30 schedule, \$110/month. 209-521-9047, ext. 2-5177

Turlock - WANTED: Vanpool or ride share from Turlock/Patterson area. 8:00-4:45 Contact me if you have an open seat. 209-602-5168, ext. 2-9505

Ceres/Modesto - 14 psgr Enterprise luxury vanpool, 7:00-3:30, \$120/month 209-537-0229, ext. 3-6631

SERVICES

Unlock your creative potential! Singing lessons. Personalized instruction, healthy technique, reasonable rates. Free introductory lesson! (925) 424-6411

Mothers & More, group for mothers altering their career paths to care for their children. 925-243-0928

Hauling Service. Estate Cleanouts, Attics, Garage, Shed & Barns. Misc.... 925-373-9540

CARPETING - linoleum - KAHRS Installation - Prompt, reliable service. 27 years experience. Licensed, bonded, insured,reasonable rates. 925-516-9510

Exterior House Painting - Over 15 yrs experience. Spring special w/ free estimates and 20% discount on quality paint. 925-447-5132

PARENTS troubled by TEEN behavior? What to do now, before too late? Free info on ToughLove, & Residential Treatment Facilities. (LLNL Meeting) 925-447-7070

Web design and web hosting, best rates, call before 8pm. 510-252-9441

SHARED HOUSING

Furnished room for sublease : May-August. \$420/\$200d. Close to East Ave. bus stop, 2.5 miles from the lab. N/S, no pets, owner has cat. 925-245-0717

Byron - two rooms for rent with private bath.\$850.00 month incl utilities. 925-516-8712

CASTRO VALLEY - - a large master bedroom in apartment next to BART available 6/1/01. Privileges, parking, 25 mins to LLNL, 35 mins to SF. \$700+deposit. 510-690-1258

Oakley - 2 rooms avail. in 4 bed, 2 1/2 bath house. Very convenient loc. w/ front & back yard. Share all util. evenly. \$400-550/m+deposit (1st&last required). 925-625-3606

Livermore - Room for rent. good east side neighborhood. \$460/mo. small room, furnished. utilities included. better price for commuter. smoker okay. 925-447-6218

Livermore - Livermore Bedroom and bath in new home close to lab; house privileges; N/S \$650/month, \$350 deposit 925-371-6232

TRUCKS & TRAILERS

1996 - Damon UltraSport 28ft Motorhome. Too many extras to list here. See RV in Lab parking lot A-8 (B.181). 33K miles. \$32,500 obo. 209-835-4969

1996 - Dodge Ram 1500 extended cab 4x4, Silver, 60k miles, elec-window,seat,locks, ac,shell,liner. \$16k,excellent condition 209-833-9561

1991 - Dodge 250 4X4 Diesel pickup. A/T, AC, PS, PB, tool box, rail guards, bed mat, 96,000 miles. Excellent condition. \$13,000 firm. 209-836-1706

1991 - Ford F-150 short bed w/shell A/T O/D 2-tanks tow pkg, 59K mi.runs and looks like new. \$8900 B/O 510-582-1494

1970 - Jeep CJ refurbished engine and transmission, comes with new equipment, great buy! \$3,300 OBO 925-371-2531

1995 - 19FT Wilderness Travel Trailer, Very Good Condition. A/C, M/W, Heater, Refrig, Stove, Awning. Must sell. \$7,600 OBO 707-570-2775

1983 - K5 GMC Blazer 6.2 Liter PW,PL,Tilt,Cruise, AC,AM/FM/ Cassett Player,KC Lights,Roof Rack. Paint about 3yrs old. Looks and runs great. \$4000 or B.O. 925-373-8360

VACATION RENTALS

Kailua-Kona, Hawaii - - north side of Keauhou Bay, Big Island. 96 steps to the beach and water. Pictures available. Lab employee rate \$70/day. 925-373-0137

SOUTH LAKE TAHOE - 3 Bedroom 2 Bath Chalet, nicely furnished, all amenities, close to all skiing,Hurry to Ski!!SPRING RATES! Reserve Now for Summer! 209-599-4644

Maui, HI - Kahana Reef oceanfront 1BR/1BA condominium. Beautiful two-island view, oceanside pool, and BBQs. Low LLNL rates for year-round reservations. 925-449-0761

Kihei, Maui - 1, 2, & 3 Bedroom Oceanfront Condos w/all amenities. Gorgeous View, Large Pool, Tennis Courts, BBQ, Excellent Location. Low LLNL Rates. 925-846-8405

Soda Springs/Donner Summit, Classic rustic A frame, 2BR/1BA+Loft, slps 8, Walk to Royal Gorge, 5 min to Sugar Bowl \$250 wknd 209-836-3481

So Lake Tahoe, 3-br + loft, slps 12, hot tub, full kitchen, close to Heavenly, walk to lake, 1-mi to Casinos 925-449-2112

Pinecrest - (Off Sonora Pass Road), 3 bdrm/2 bath, frplc w/wood, microwave, barbecue, pool table, large deck and view up No. Fork of Tuolumne, \$175/wknd. 925-449-5513

Southern MAINE COAST - Unique getaway, two beachfront homes on wooded acreage, some openings Summer/Fall, seven mile sandy beach, call for details. 925-516-7524

SEA RANCH - Oceanview home. No smoking. No pets. Adults only. 2BR(KQ)/2BA 1700sqft. Hike. Bike. Whale watch. Kayak. Swim. Tide pool 925-443-5086

WANTED

WANTED: 49 - 57 Dodge Power Wagon pickup. Newer models also considered. 925-846-0645

1991 - WANTED: Camper shell to fit 1991 Toyota standard size pickup. 510-581-4609Recumbant exercise bike \$150. 925-443-3102

Baby crib in good condition. 925-961-9711

Iris - common, cheap, will dig/divide (4-6368) 415-673-9499

Full or Queen size mattress and box springs with rails. 209-862-0509

Wanted- Person to help with yardwork, painting, auto repair, odd jobs, weekends or evenings Livermore or Pleasanton 925-447-7070

Costume or junk jewelry(no plastic please) wanted for craft projects. Need not be in wearable condition....single earrings always welcome. Sandi 925-462-1548

I started my Swedish massage session in school and I need bodies to practice on in the TriValley area. Appointments fill fast. 510-791-8623

Golf Cart, gas, running or not.Reasonably Priced. 925-373-1089

Wanted, BMW motorcycle R75 or R90 any condition. 209-832-5506

Kayak - single, sit on top, like the Ocean Frenzy model. 209-521-9047

1955-1959 Chevy-GMC NAPCO 1/2T pickup or 1949-1957 Dodge Power Wagon 925-846-0645

Yellow jacket GENERIC formula for the attractant !! 925-735-6002

Wanted 45 RPM records (and some LPs) in good condition, mainly 50s and 60s. 925-454-9291

Jeep or Toyota Landcruiser in good running condition. 209-952-5305

Help needed with summer childcare in Oakland. Two kids, two months (June July), two days a week. Needs own car. 510-530-8368

Wanted : apartment/house for short term (May - August) in Livermore or somewhere close to BART. 925-245-0717

Wanted a 5 hp Horz.Shaft gas engine running. 925-449-4262

Hooked on Phonics Game for child with learning disability. 925-449-3152

Due to space limitations, *Newsline* may withhold ads that have already run. They will still appear on the Web.

Defense research provided spark for EUVL technology

The EUVL technology arose from defense research developed in the 1980s. Researchers recognized the potential value of this defense work for lithography — which the Defense Advanced Research Projects Agency considers a critical technology — and worked to demonstrate the feasibility of working with extreme ultraviolet light.

This evolved into research partnerships forged with industrial partners funded in part through the Department of Energy’s Technology Transfer Initiative program, providing a process and impetus for public-private research.

Livermore’s early work with reflective coatings enabled systems that can manipulate EUV light (which is absorbed by most materials). Sandia researchers demonstrated new methods of creating EUV light.

“Lab researchers really believed this work could lead to groundbreaking advances in a critical field for the nation,” said Karena McKinley, director of the Industrial Partnerships and Commercialization Office (IPAC). “Major effort was put into developing the industrial partnership agreements that provided the framework for continued research into EUVL.”

Once the early stage research and development had been established, industry, in the form of the EUV Limited Liability Company, assumed funding in 1997 for the entire ensuing technology development.

Also in 1997, the Virtual National Laboratory — encompassing researchers from Lawrence Livermore, Lawrence Berkeley and Sandia national laboratories — was established to work as a unit with the industrial consortium

in a Cooperative Research and Development Agreement project, which was extended from three years to run through early 2002.

“A lot of people throughout the Lab worked long and hard to bring the EUVL project to the successful fruition we see today,” said Jan Tulk, Lab counsel. “The technical team did an incredible job, of course, but elements such as IPAC, Governmental Relations and Laboratory Counsel also played strong roles in helping guide the project forward.”

Lawrence Livermore, with several programs devoted to diagnostics and high-intensity laser research, brings a variety of skills to the project, including special expertise in creating precision reflective optical coatings from multilayered materials, advanced optical testing methods and defect inspection technologies.

EUVL

Continued from page 1

Tauscher, D-Tassajara; and Sunlin Chou, Intel senior vice president and chairman of the EUV Limited Liability Company Management Board.

The prototype EUVL machine, called the Engineering Test Stand, is located at Sandia and was developed in a unique industry-government collaboration between the three DOE laboratories — which joined their research efforts in a Virtual National Laboratory — and a consortium of semiconductor companies called the EUV LLC.

The consortium includes Intel Corporation, Motorola Inc., Advanced Micro Devices Inc., Micron Technology Inc., Infineon Technologies and International Business Machines.

EUV lithography was developed because the current chip-printing technology is expected to reach its physical limits in the next few years. It will no longer be able to continue printing smaller and smaller features, thus limiting the number of circuits that can be printed onto chips and halting advances in speed and power.

Current lithography technology is expected

to allow semiconductor manufacturers to eventually print circuits as small as 0.1 micron in width, or 1/1,000th the width of a human hair. EUV lithography technology is being developed to allow manufacturers to print circuit lines down to at least 0.03 microns, extending the current pace of semiconductor innovation at least through the end of this decade.

The Engineering Test Stand prototype EUVL machine produced its first images on silicon in January.

“The completion of the prototype machine marks a major milestone for the program, since we have proven that EUV lithography works,” said Chuck Gwyn, program manager of the EUV LLC.

The prototype machine will be used by LLC partners and lithography tool suppliers during the next year to refine the technology and prepare to create a prototype commercial machine that meets industry requirements for high-volume chip production.

Processors built using EUV technology are expected to reach speeds of up to 10 GHz in 2005-2006. By comparison, the fastest Pentium 4 processor today is 1.5 GHz.

Gen. Gordon called the national laboratories’ work in EUVL “spectacular.”

“These kinds of challenges are exactly the

kind of work our national laboratories do best,” said Gordon. “The EUVL partnership demonstrates that fundamental science and innovative ideas can be applied toward solutions in both the commercial and public sectors. This really is a partnership that works in every dimension.”

“The cooperation and coordination in this project has been phenomenal,” said Intel CEO Craig Barrett. “Getting together with the best in government research has made this project very exciting.”

Intel’s Sunlin Chou said “I feel extremely privileged to have shared in this extraordinary feat. It’s a proud and happy day for the national labs.”

The Laboratory’s EUVL team is headed by Don Sweeney of Physics and Advanced Technologies’ Information Science & Technology Program. Other team members include Sasa Bajt, Sherry Baker, Kenneth Blaedel, Butch Bradsher, Charlie Cerjan, Henry Chapman, Courtney Davidson, Daren Dillon, Jim Folta, Fred Grabner, Layton Hale, Patrick Kearney, Cindy Larson, Rick Levesque Paul Mirkarimi, Nhan Nguyen, Don Phillion, Mark Schmidt, Frank Snell, Gary Sommargren, Regina Soufli, Eberhard Spiller, John Taylor and Chris Walton.

AWARDS

Continued from page 3

time between experiments. The Oboe 1 and 2 experiments were separated by only five-and-a-half weeks, compared to at least six months for previous SCEs.

LEOS Team — Ellen Corey and David Young.

Corey and Young have devoted many years of effort to the development of equation of state (EOS) models and to the representation of these models in libraries of data tables and access routines. This effort came to fruition in the past year with the release of LEOS, a new EOS library containing data for over 150 materials in denser tables with greatly improved interpolation routines. The timely release of these tables and collaborative efforts among the awardees and developers of an ASCI burn code were essential to the recent successful demonstration of the 3D full-system simulation prototype.

2000

Giulia Galli and Francois Gygi — Galli and Gygi have exploited ASCI computing to pioneer the development of a fundamental, new method of materials simulation. Their terascale calculations have demonstrated that first-principles quantum molecular dynamics simulations can provide profound insight into the behavior of shocked, high-pressure molecular fluids, which are relevant to the detonation and performance of high explosives and to the behavior of hydrogen.

Bret Knapp — Knapp provided engineering and project leadership for the DNT Directorate in sup-

porting strategies and concerns for dealing with weapons of mass destruction. The focus of this activity has been on traditional threats such as stolen foreign nuclear weapons, the construction of improvised nuclear devices and radiological dispersal devices. There is also an increased concern over the possibility of illegal marketing of radiological material. The focus at LLNL is on developing nuclear and radiological emergency assistance capabilities for this national effort. Knapp was recognized for his leadership and contributions to this effort.

Mary Zosel — Zosel was recognized for her leadership in developing a comprehensive approach to evaluating progress in the ASCI simulation development environment. Her approach involved working with team members to develop a set of 60 individually defined tasks associated with development work on 10 codes at the three weapons laboratories. These tasks combined to make up the formal FY01 Milepost activity for the problem solving environment portion of the ASCI Program. Zosel and her collaborators assembled a detailed set of Web documentation associated with runs and lessons learned; this documentation, together with a written summary report and interactive demonstrations, will form the basis for the formal review process to be conducted this month.

CHEETAH Simulation Code Team: Larry Fried, Clark Souers, Mike Howard, Peter Vitello.

The CHEETAH team has made exceptional contributions to advancing the state of the art in simulating the behavior of energetic materials. CHEETAH is a thermochemical-kinetics code that predicts the performance properties of high explosives, rocket and

gun propellants and pyrotechnics. This team has made major improvements to the scientific rigor of the detonation kinetics in the code. By adding a link to a hydrodynamics code, they have provided the capability for explosive EOS and kinetic data properties to be calculated on the fly as the material configuration changes. Their work has helped to maintain CHEETAH as the international standard for weapons chemistry.

GEANIE Cross Section Measurements Teams: John A. Becker, Lee A. Bernstein, Walid Younes, Dennis P. McNabb, Paul E. Garrett, Daniel E. Archer, C. A. McGrath, M. A. Stoyer, H. Chen, W. Erich Ormand, Petr Navratil, John Anderson, Frank Dietrich, Rudolf Bauer. A similar award will also be given to a LANL team.

Teams from LLNL and LANL have combined to achieve a definitive measurement of the production of plutonium 238 from neutron bombardment of plutonium 239 over a wide neutron energy range. This work was performed with the new Germanium Array for Neutron-Induced Excitations (GEANIE) at the LANSCE/WNR neutron source. To establish the absolute cross section, the teams used a new analysis technique that combined measurements of known gamma-ray transitions from the product nucleus and state-of-the-art reaction modeling to calculate and correct for unobserved decays. This project has provided important data for the weapons program that is difficult, or may be impossible, to obtain in other ways. The apparatus and techniques that were developed are being applied to other priority data needs for the Stockpile Stewardship Program.



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Gordon, Mies honor CAPS' crowning achievements

A decade of accomplishments by the team that created the Counterproliferation Analysis and Planning System was recognized in a special ceremony at the Lab Tuesday. Gen. John Gordon, administrator of the National Nuclear Security Administration, and Adm. Richard Mies, commander-in-chief of the U.S. Strategic Command, attended the ceremony.

The Counterproliferation Analysis and Planning System, or CAPS, is a versatile and powerful tool for analyzing the proliferation activities of foreign countries. CAPS is widely used by military services and agencies with responsibility for determining the United States' response to proliferation activities.

Director Bruce Tarter said at the start of the ceremony that CAPS exemplifies what happens at the Lab when "someone has an interesting idea aided by serendipitous circumstances, and that idea gets some initial seed money, sometimes from the Lab or someone else, which then turns that idea into something that has a major impact on the sponsors and the country."

CAPS was the brainchild of Tom Ramos, who received a standing ovation from his team members, colleagues and other dignitaries gathered in the Bldg. 132 auditorium to mark the occasion.

Drawing on information from multiple sources, CAPS can model various processes — chemical, bio-

logical, metallurgical — that proliferants use to build weapons of mass destruction and delivery systems. The purpose of CAPS is to identify critical processing steps or production facilities, which, if denied, would prevent that country from acquiring weapons of mass destruction.

CAPS started about 10 years ago after Desert Storm. It began to experience significant growth and user acceptance some five years ago and within the past couple years has been integrated into the counterproliferation planning process. CAPS is a continuing, evolving partnership between the Laboratory and the U.S. Strategic Command. The system is continually upgraded as new information becomes available and as military planning needs change.

Wayne Shotts, AD of the Nonproliferation, Arms Control and International Security Directorate, lauded both Ramos and the entire CAPS team as "champions of a new way to do counterproliferation analysis."

Shotts attributed their success to "vision, strong customer focus and total systems approach."

He emphasized that it is the strengths that each of the 60 researchers brings to this multidisciplinary project that make CAPS so successful.

Along with Project Leader Ramos, Shotts recog-

nized Dave Shoemaker, leader of the Process Analysis Group, George Harris, Intelligence Analysis Group, John Futterman, Consequence Analysis Group, Jo Ellen Neuman, Signatures Group, and John Zych, Computer Architecture Group, who accepted certificates on behalf of the people in their groups. All CAPS team members will be recognized in a ceremony today.

Shotts called CAPS an "example of a great partnership within the Lab and NNSA as well as with the Department of Defense."

Gordon hailed CAPS as "a great success story" that "shows we can operate in this interagency environment."

He noted that the true measure of its success is "that the CINC (commander in chief of the Strategic Command) — Mies — talks about it. There's the metric that tells you it's the right program."

Mies said he was honored to be part of a ceremony "recognizing a decade-long journey and a lot of hard work."

"Weapons of mass destruction are one of the biggest threats we face," he said. "We're not well organized as a government to deal with that. But CAPS is an exception."

W87

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century."

Mies said the timely completion of the project will allow the W62 warhead to be "retired on time."

"I'm very pleased with the progress that you and others — Sandia and Los Alamos — have made with the Stockpile Stewardship Program," he added. "The program has matured. We've come to recognize that stockpile stewardship and underground testing are not an either-or proposition. Even if we were testing today, we would want stockpile stewardship."

"The value of stockpile stewardship in my mind is not just in the confidence it gives us in the weapons systems, but the confidence in the people — you ultimately — who make judgments about the weapons system performance," Mies said. "Because in the end, it's the people who will be the stewards of the stockpile."

Gordon also lauded this "early success" of the Stockpile Stewardship Program. "Stockpile stewardship is really working," he said, though "we still have a long way to go."

Praising the progress in the development of experimental and computational tools, Gordon noted that "we're confident we know how to solve the aging problem without testing. We're on the right track."

He also said Livermore "demonstrated real leadership" in overcoming such difficulties as finding parts, assembly techniques and experienced people in a "down-sized complex."

"This was a tremendous effort in a difficult time

frame," Gordon said. "You've cleared the path and now are preparing the foundation for the next round."

"I'm delighted to be here to help celebrate a really major accomplishment for the Laboratory, the weapons program and an accomplishment for stockpile stewardship," he concluded.

Lab Director Bruce Tarter said the first certification of a warhead without testing was a "very significant achievement."

"This is the first instance when we have certified a warhead after a significant program without the use of nuclear testing," Tarter said. "That's major achievement for the formal program we began five or six years ago."

"In the course of doing that we've employed a number of the tools that have been developed. We've taken advantage of the Accelerated Strategic Computing Initiative (ASCI) computers to do calculations many of us never believed would be possible," he said, noting computers are now useful in addressing engineering questions as well as design.

"One of the most significant things is that with a production complex that is not fully up, we were able to get it to do what it needed to do to get this entry into the stockpile," Tarter said. "And that is the measure at a basic level of whether you can do the job."

The project took "one heck of a lot of brain power. There were some very clever and creative things that needed to be done," he said. "It exercised not just the doing capability, it exercised the creative and brain capabilities across the entire program."

Michael Anastasio, AD for Defense & Nuclear Technologies, received commemorative plaques from

both Gordon and Mies and in turn gave them mementos marking the occasion. Anastasio then recognized the leaders of the W87 program.

He said more than 300 people made "significant contributions" to the W87 Life Extension Program and that "teamwork was the key" to the program's success.

The effort, which included partnering with Sandia, Los Alamos peer review and plants across the complex, has helped "re-energize the whole enterprise" to do something for the stockpile in the context of the Comprehensive Test Ban Treaty, Anastasio said.

Those recognized for leadership roles in the program included: Jack Robbins, now retired, Robert Clough, Glenn Mara and Hank O'Brien, program leader emeritus.

Receiving certificates of recognition were: secondary designers Don Smith, John Castor and Dave Dearborn; primary designers Leon Keller and Cynthia Nitta; Engineering Project Group members Tom Horrillo, Larry Sedlacek, Fil Diaz, Janice Everly, Tom Healy, Jim Kervin, Terry Lindman, Tommy Smith, Jess Squires, Sue Taylor and Peter Terrill; MSAD members Jeffrey Hagerty and Mark Hart; Engineering analysts Dan Badders, Bert Jorgenson and Frank Magness; the engineering design drafting team of Dave Neal and Gus Bernal; Jim LeMay of Chemistry and Materials Science; Bill Delameter of the Sandia Project Group and Wendy Baca of NNSA Albuquerque Operations.



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UC-LLNL
PO Box 808, L-797
LIVERMORE, CA 94551-0808

SURVEY

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sible are addressed." (Bruce Tarter asked Wadsworth to assume responsibility for managing the survey following Bob Kuckuck's recent retirement.)

The survey will address myriad workforce challenges, among them recruitment and retention, work environment and diversity.

"In order for us to make positive impacts, we must know what you think about your work environment and quality of life at the Lab," Tarter said in the January Director's Office column.

"We need to maintain our highly skilled workforce as we prepare for the future," Tarter said when announcing the survey.

The survey is expected to go to all Lab employees by late May. It is being developed by ISR, the same firm that conducted the Lab's employee survey

in 1995. The survey will be offered online as well as in paper form, and will take about 30 minutes to complete. The survey will collect data that will permit trend analyses, benchmark comparisons with other laboratories and companies, and clarification and prioritization of Lab-specific issues.

"We would like all Lab employees to give us their opinions by responding to this survey," Wadsworth said. "This is a prime opportunity to understand employee views of the work environment, with a goal of enhancing the Lab's desirability as a place of employment."

It is critical that all Lab employees take the survey in order for programs to be developed to enhance work/life issues at the Laboratory. "Change cannot be effectively made without the input of all employees," said Tarter.

Additional information about the employee survey and its process will appear in upcoming issues of *Newsline*.